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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,600	11/20/2001	Khai Pham	19903.0002	8932

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EXAMINER

GODDARD, BRIAN D

ART UNIT	PAPER NUMBER
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2161

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,600

Applicant(s)

PHAM ET AL.

Examiner

Brian Goddard

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,9,10,12,19,26,33,34 and 36-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,9,10,12,19,26,33,34 and 36-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This communication is responsive to the Amendment filed 29 November 2004.
2. Claims 1-3, 9, 10, 12, 19, 26, 33, 34 and 36-42 are pending in this application. Claims 1, 12, 19 and 26 are independent claims. In the Amendment filed 29 November 2004, claims 1, 12, 19, 26, 33 and 34 were amended; claim 35 was cancelled; and claims 39-42 were added. This action is made Final.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-3, 9, 10, 12, 19, 26, 33, 34 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,960,170 to Chen et al. in view of U.S. Patent Application Publication No. 2002/0143825 to Feinberg, and further in view of either the Microsoft Press ® Computer Dictionary, Second Edition (hereinafter 'MCD'), OR Managing Microsoft ® Office 97 Professional Edition by Moseley et al. (hereinafter 'Office 97').

Referring to claim 1, Chen discloses an anti-virus program executable by a computer system as claimed. See Figures 1-5 and the corresponding portions of Chen's specification for this disclosure. Chen teaches an anti-virus program [450] executable by a computer system [See Figs. 1-3] comprising:

virus scanning routines [454] operable to scan a file and detect a virus;

virus removal routines [460] operable to remove the detected virus from the file, the virus removal routines comprising a text editor [treatment object / remedial routine], operable to search [scan for cleaning patterns (See disclosure of Cleaning Module and Cleaning Pattern Module)] and modify a textual portion [stripping out or replacing infected portions (See column 15, line 54 et seq.)] of the file under control of virus removal instructions; and

the virus removal instructions [458 & 462], which are operable to cause the text editor to remove a virus from the textual portion of the file;

wherein the text editor comprises a search function [remedial scanning function] operable to search a textual portion of a file using a regular expression [strings making up the signatures] specifying a pattern [See 462] of text [strings] to be matched [as with the detection scanning functions (See Columns 13-15)];

wherein the text editor comprises a mark function ['marker'] operable to mark text matching the regular expression that was found by the search function [See Column 14, lines 32-48]; and

wherein the text editor comprises a delete function [See e.g. Column 15, line 54 et seq.] operable to delete text marked by the mark function ['stripping out infected portions'] as claimed.

Chen does not explicitly teach that the search and mark functions are operable to search for and mark a start of text to be marked and an end of text to be marked, while the delete function is operable to delete text between the start marker and end marker as claimed.

Feinberg discloses a text editor similar to that of Chen, capable of searching for patterns in text and marking them for modification. See Figures 2-4 and the corresponding portions of Feinberg's specification for this disclosure. In particular, Feinberg teaches a text editor [205] comprising: a search function ['scanning' module] operable to search the textual portion of a file using a regular expression specifying a pattern of text to be matched [See ¶ 0021, 0029 & Claim 1]; a mark function operable to mark text matching the regular expression that was found by the search function [See ¶ 0021, Fig. 4 & Claim 1]; and a modify function ['correction' module] operable to modify text marked by the mark function [See ¶ 0021, Fig. 4 & Claim 1]; wherein: the search function is operable to search for a start of text to be marked and the mark function is operable to mark a start marker at the start of text [See Summary, Fig. 4 & Claim 1]; the search function is operable to search for an end of text to be marked and the mark function is operable to mark an end marker at the end of text [See Summary, Fig. 4 & Claim 1]; and the modify function is operable to modify text between the start marker and the end marker [See Summary, Fig. 4 & Claim 1].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the functionality of Feinberg's search, mark and modify functions to the text editor of Chen's system, wherein Feinberg's modify function is set to delete the text as taught by Chen, to obtain the invention as claimed. One would have been motivated to do so in order to accurately and efficiently identify a pattern of text (as taught by Feinberg) that matches that of a virus during a full scan (as taught by

Chen) to account for Chen's silence on the details of the full text virus scan (also termed the 'second type of detection').

The text editor of Chen v. Feinberg is capable of a display current line action [See Feinberg Abstract, Summary & Fig. 4], and a save edit action [See Chen: remedial result; & Feinberg: Fig. 4] as claimed. Both Chen and Feinberg are silent on case sensitivity actions. However, case sensitivity actions, such as turn case sensitivity off and turn case sensitivity on, were well known and commonly used in search/find functions of text editors (like those of Chen & Feinberg) at the time of applicants' invention, as evidenced by MCD and Office 97. Specifically, the definitions of 'case' and 'case sensitivity' on page 66 of MCD, and the disclosure of the Match Case option (Match Case checked = turn case sensitivity on; Match Case unchecked = turn case sensitivity off) in the Find/Find and Replace function of Office 97 on pages 317-321, show that these case sensitivity features were common and well known prior to applicants' invention.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the case sensitivity actions of MCD and/or Office 97 to the text editor of Chen v. Feinberg in order to obtain the invention as claimed. One would have been motivated to do so in order to provide more flexibility and accuracy to the search function, as disclosed by MCD and Office 97.

Referring to claims 2-3, Chen v. Feinberg & MCD/Office 97 discloses the anti-virus program as claimed. See Columns 13-14 of Chen's specification for the details of this disclosure, as well as Figure 4 and the corresponding portion of Feinberg's

specification. Chen v. Feinberg & MCD/Office 97 teaches the anti-virus program of claim 1, as above, wherein the removed virus is located on one line of text [single, string-by-string match for signature (See 'first type of detection')], or on a plurality of lines of text [string matching for adjacent portions (See 'second type of detection')] as claimed.

Claims 9 and 10 are rejected on the same basis as claims 2 and 3 respectively. See the discussions regarding claims 1-3 above for the details of this disclosure.

Claims 12, 19 and 26 are rejected on the same basis as claim 1 above. See the discussion regarding claim 1 for the details of this disclosure. In particular, Chen v. Feinberg & MCD/Office 97 discloses a method, system and computer program product for removing a virus from a textual portion of a file infected with a virus by "loading the infected file [Chen: Steps 250-260 and 590-625]" and subsequently performing the actions of claim 1 above as claimed.

Referring to claims 33 and 34, Chen v. Feinberg & MCD/Office 97 discloses the anti-virus program as claimed. Specifically, Chen v. Feinberg & MCD/Office 97 teaches the anti-virus program of claim 1, as above, wherein the text editor is capable of actions including load current or particular module and start edit actions [See Chen's Background & Summary and Fig. 3 of Feinberg], match ...[any] line actions [See Feinberg Fig. 4], a delete marked positions action [See discussion of claim 1 above], a global pattern match and delete action [See Chen Steps 525-535], and delete single or all word processor macro reference actions [See Chen Fig. 5 & corresponding portion of specification and Column 23, lines 16-17] as claimed.

Neither Chen nor Feinberg explicitly disclose a reset cursor position to beginning of the file action as claimed. However, this action was well known and commonly used in text editors (like those of Chen & Feinberg) at the time of applicants' invention, as evidenced by MCD and Office 97. Specifically, the definitions of 'home' and 'Home key' on page 200 of MCD, and the disclosure of Repositioning the Insertion Point on pages 138-139 of Office 97, show that this reset cursor position feature was common and well known prior to applicants' invention. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the reset cursor position actions of MCD and/or Office 97 to the text editor of Chen v. Feinberg & MCD/Office 97 in order to obtain the invention as claimed. One would have been motivated to do so in order to provide more flexibility and accuracy to the navigation/search function, as disclosed by MCD and Office 97.

Referring to claims 36 and 37, Chen v. Feinberg & MCD/Office 97 teaches the anti-virus program of claim 1, as above, wherein the regular expression includes both plain text and special characters [Feinberg: Fig. 4] to indicate a type of matching that is to be performed, wherein the special characters include a branch [e.g. dash], a piece [e.g. separator], an atom [e.g. number], and a range [e.g. end] as claimed.

Referring to claim 38, Chen v. Feinberg & MCD/Office 97 teaches the anti-virus program of claim 1, as above, wherein current actions of the text editor are dependent on previous actions [See If-Then branching of Feinberg's scanning routine in Fig. 4] as claimed.

4. Claims 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Feinberg & MCD/Office 97 as applied to claims 1 & 36-37 above, and further in view of Compilers, Principles, Techniques, and Tools by Aho et al. (Hereinafter 'Aho').

Referring to all of claims 39-42, Chen and Feinberg do not explicitly teach that the atom includes a regular expression in parentheses; the piece includes the atom followed by characters; the branch includes a plurality of the pieces, concatenated; and the range includes a sequence of characters enclosed in '[]' as claimed.

Aho discloses regular expressions including both plain text and special characters [See pages 94-97]; wherein the special characters include a branch, a piece, an atom, and a range; and wherein the atom includes a regular expression in parenthesis [e.g. (r), (a) – See page 95]; the piece includes the atom followed by characters [e.g. (r)*, (b)* - See page 95]; the branch includes a plurality of the pieces, concatenated [e.g. (a)*(b)* - See pages 95-96]; and the range includes a sequence of characters enclosed in '[]' [e.g. [a-z] – See 'Character classes' at bottom of page 97] as claimed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the text editor's regular expression search function of Chen v. Feinberg & MCD/Office 97 to include the syntax of Aho as provided above, to obtain the invention as claimed. One would have been motivated to do so because of the explicit suggestion by Aho for inclusion in text editors, provided on page 158.

Response to Arguments

5. Applicants' arguments with respect to claims 1-3, 9, 10, 12, 19, 26, 33, 34 and 36-42 have been considered but are moot in view of the new ground(s) of rejection.

Referring to applicants' remarks on pages 8-9 regarding the Section 103 rejection of the independent claims: Applicants argued that there is no suggestion or motivation to combine the references (Chen & Feinberg), that these two references are directed to non-analogous art, and that Feinberg teaches away from the combination.

The examiner disagrees for the following reasons: First, in response to applicant's argument that Chen and Feinberg are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Chen is clearly in the field of applicants' endeavor of virus scanning systems. Feinberg, although not explicitly directed to the endeavor of virus scanning, is directed to the modification of original text that is flawed in some way to generate new text that is acceptable. This is directly parallel and relevant to the particular problem with which both Chen and applicants were concerned because the anti-virus programs of the instant claims and Chen are directed to the modification of original text that is flawed in some way [contains a virus] to generate new text that is acceptable. Thus, Chen and Feinberg are analogous art, contrary to applicants' assertions.

Second, applicants have improperly reduced Feinberg to a mere “text rendering system.” The conclusion --that because the “crux” of Feinberg’s invention is to render text, any use of Feinberg’s technology to delete the same would simply not make sense (See page 9 of response) – is simply unfounded in Feinberg’s disclosure because it completely ignores the fact that Feinberg modifies the text prior to rendering. Feinberg’s systems and methods modify/correct the original text to produce new, proper text for rendering, as is clear throughout Feinberg’s specification. Therefore, Feinberg does not even remotely teach away from deletion, as modification/correction requires deletion of the original text and generation of new text.

Finally, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, suggestion to combine comes from the references themselves, as Feinberg’s disclosure provides an accurate and efficient methodology for scanning and locating/matching text that would fit perfectly into Chen’s systems and methods to cure the silence of Chen’s implementation details.

Referring to applicants’ remarks on page 9 regarding the Section 103 rejections of the independent claims: Applicants argued that the mention of “strings” in Chen does

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not rise to the level of specificity of applicant's claimed "text" and that the combination therefore fails to teach the claimed "text editor."

The examiner disagrees for the following reasons: The definition of "string" on page 374 of MCD clearly shows that strings contain text. Thus, the mention of strings in Chen certainly rises to the level of specificity of the claimed "text" as one of ANY skill in the art would associate strings with text.

Applicants' remarks on pages 10-11 constitute a complete piecemeal analysis of the references. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Referring to applicants' remarks on pages 12-13: Applicants requested a specific showing of evidence in support of the Official Notice taken for certain specific elements of the claims.

In response, the Office has provided multiple prior art references in support of the position taken previously on Official Notice, as required by MPEP 2144.03 (See above).

Referring further to applicants' remarks on page 12: Applicants argued that the application of the prior art to each of applicant's dependent claims is "replete with deficiencies", noting claim 34 by way of example.

The examiner disagrees for the following reasons: As claim 34 is the only claim noted here by applicants, claim 34 is the only claim that will be specifically addressed

here by examiner. The cited portions of the references, taken in light of the combination in claim 1 as a whole, disclose actions that entirely encompass the listed actions, even though every single listed action may not be specifically mentioned in the disclosures. By way of example, Feinberg's (and therefore the combination's) searching/matching functions are capable of matching ANY line, and are therefore "capable of" matching a current line, any subsequent line, a next line, etc. The Office maintains that each and every claim of the instant application is *prima facie* obvious over the cited combination.

Referring to applicants' remarks on page 13 regarding the Section 103 rejection of dependent claim 37: Applicants argued that the prior art does not meet applicant's claimed special characters (branch, piece, atom and range), since the definitions for such terms from page 18 of the originally-filed specification are not met.

The examiner disagrees for the following reasons: First, the "definitions" provided on page 18 of the specification are provided by way of example as clearly evidenced at the bottom of page 17 of the instant specification. Namely, the "syntax table" on page 18 is "exemplary", and is clearly not intended to limit the claimed invention. Although applicant may be his own lexicographer, to do so he must provide an explicit definition for a term that is clearly intended to limit the term in a definitive manner.

Second, the "definitions" provided on page 18 of the specification are indefinite and contradictory, and cannot possibly provide definitive meets and bounds for the claimed invention. For example, "branch" is "defined" as "**zero** or more pieces, concatenated." (emphasis added) If a branch can be zero pieces, than a branch can

be nothing at all, or anything for that matter. This is completely indefinite. "Piece" is "defined" as "an atom **possibly** followed by '*', '+', or '?'." (emphasis added) If a piece is an atom "possibly" followed by a character, then it is not necessarily followed by anything at all. Thus a piece is an atom. This is both contradictory and indefinite.

For at least these two reasons, these terms in claim 37 have been given their broadest reasonable interpretation. The combination as a whole therefore teaches each and every limitation of applicants' claim 37, as above.

Applicants' arguments with respect to new claims 39-42 are moot in view of the new grounds of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goddard whose telephone number is 571-272-4020. The examiner can normally be reached on M-F, 9 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bdg
10 March 2005


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